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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/636,078	08/07/2003	Gregory S. Helwig	25334A	9843
22889	7590	12/13/2007		
OWENS CORNING 2790 COLUMBUS ROAD GRANVILLE, OH 43023			EXAMINER	
			CHRISS, JENNIFER A	
			ART UNIT	PAPER NUMBER
			1794	
			MAIL DATE	DELIVERY MODE
			12/13/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/636,078

Applicant(s)

HELWIG, GREGORY S.

Examiner

Jennifer A. Chriss

Art Unit

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-25 and 37-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-25,37-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Remarks

1. The Applicant's Remarks, filed August 6, 2007, have been entered and have been carefully considered. Claims 1, 3 – 25 and 37 – 50 are pending and no claims have been amended. The invention as currently claimed is not found to be patentable for reasons herein below.

Claim Rejections - 35 USC § 102/103

2. Claims 1, 3 - 7, 9 - 17, 20 – 21, 24 - 25, 37 – 43 and 47 – 48 remain rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Chenoweth et al. (US 4,889,764). The details of the Office Action can be found in paragraph 3 of the Office Action dated May 16, 2007. The rejection is maintained.

Claim Rejections - 35 USC § 103

3. Claims 8, 44 - 46 and 49 – 50 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Chenoweth et al. (US 4,889,764) in view of McGregor et al. (US 5,571,592). The details of the Office Action can be found in paragraph 4 of the Office Action dated May 16, 2007. The rejection is maintained.

4. Claims 18 - 19 and 22 – 23 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Chenoweth et al. (US 4,889,764) in view of Denton et al. (US

5,840,637). The details of the Office Action can be found in paragraph 5 of the Office Action dated May 16, 2007. The rejection is maintained.

Response to Arguments

5. Applicant's arguments filed August 6, 2007 have been fully considered but they are not persuasive.
6. Applicants argue that Chenoweth et al. is completely silent as to the melting point of the synthetic fibers 14 relative to that of the sheath 20 of the bicomponent fibers 16. The Examiner agrees that Kevlar and Nomex do not have a defined melting point but Chenoweth et al. also teach the use of Dacron polyester fibers (column 4, lines 50 – 69) and notes that the fibers may be crimped (column 5, lines 5 – 15). It should be noted that these fibers were also equated to the “one or more irregularly shaped fibers”. The bicomponent fibers of Chenoweth et al. have a Dacron polyester core having a melting point of 485 degrees F and a sheath having a melting point of at least about 100 degrees lower than the melting/bonding point of the core, in particular 285 degrees F (column 5, lines 15 – 35). It should be noted that, if the “one or more irregularly shaped fibers” are Dacron polyester, which is noted by Chenoweth et al. to have a melting point of 485 degrees F, and the sheath of the bicomponent fibers have a melting point of at least 100 degrees lower than the melting/bonding point of the core, in particular 285 degrees F, the limitation of “one or more irregularly shaped fibers having a melting point significantly higher than said outer polymer annulus” would be met. In addition, the limitation of claims 20, 39 and 47 requiring that the “one or more irregularly shaped

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fibers having a melting point of at least 100 degrees Fahrenheit higher than the melting point of said outer polymer annulus" would be met because the irregularly shaped fibers of Dacron polyester would have a melting point of 485 F and the sheath of the bicomponent fibers would have a melting point of at least 100 degrees lower than the one or more irregularly shaped fibers, in particular 285 degrees F. In addition, it is noted that other claims require that the "one or more irregularly shaped fibers" are nylon; it should be noted that, according to Hawley's Condensed Chemical Dictionary, the melting point of nylon 66 is 264 degrees C (507.2 degrees F) and nylon 6 is 223 degrees C (433.4 degrees F). Even if the nylon of Chenoweth et al. is nylon 6, the melting point difference between the "one or more irregularly shaped fibers" would be still greater than 100 degrees F. The Examiner submits that the rejection as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Chenoweth et al. (US 4,889,764) is proper.

7. Applicant argues that McGregor teaches away from the combination of microspheres and binder. It should be noted that McGregor specifically states that "Despite these deficiencies, prior to the present invention, expandable microspheres have been applied as a thermal insulative material only when adhered together to to another material using some form of adhesive binder" (column 2, lines 40 – 45). Therefore, although it might not be a desired configuration of McGregor, McGregor does acknowledge that the use of binder with expandable microspheres is known in the art. The Examiner has relied on McGregor to provide motivation to incorporate

microspheres into the non-woven product of Chenoweth. The Examiner submits that the rejection is proper.

8. Applicant argues that the Examiner does not provide sufficient motivation for replacing a co-polyester sheath with a polyethylene or polypropylene sheath in the bicomponent binder fiber of Chenoweth et al. As established in Denton et al., polyethylene and polypropylene are known materials as well as co-polyester for sheaths in sheath-core configurations. It should be noted that the substitution of known equivalent structures involves only ordinary skill in the art. The Examiner has established that they are suitable equivalents for a sheath-core fiber structure.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Chriss whose telephone number is 571-272-7783. The examiner can normally be reached on Monday - Friday 8 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571 - 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jennifer A Chriss/
Examiner, Art Unit 1771
October 3, 2007

/Ula C Ruddock/
Primary Examiner, Art Unit 1794